

Abstract

A system for bi-directional power distribution line communication. The system is configured for data communication with an endpoint transceiver located at a customer premise. The system comprises a time server in electrical communication with the transceiver, the time server configured to retrieve the time. A substation controller is in electrical communication with a power distribution line. The substation controller includes a transceiver and a programmable circuit. The programmable circuit includes a substation clock. The programmable circuit is programmed to periodically retrieve the time from the time server to calibrate the substation clock to the retrieved time, and to control the transceiver to transmit the time to the endpoint transceiver.